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ORIGINAL ARTICLE

Early Patient Satisfaction with Different Treatment Pathways for Trigger Finger and Thumb

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Keywords Corticosteroid injection · Open release · Preference · Satisfaction · Treatment change · Trigger digit

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Introduction

Idiopathic trigger finger and thumb are treated with splint immobilization, corticosteroid injection, or A1-pulley release. Because the natural history of idiopathic trigger finger is unknown, there is no evidence that immobilization is palliative or disease modifying. Relatively small, uncontrolled case series suggest that about half of patients are satisfied with their symptoms after a period of splint immobilization [8, 10, 34]. Resolution of triggering after one or two corticosteroid injections varies substantially between studies (35 % and 87 % for one and 72 % to 92 % for two injections) [1, 5, 12, 19, 21, 28, 30, 31, 41], and seems to depend on practice style (e.g., scheduled vs. as needed return visit; timing between injection and return visit) and the injected steroid [29]. In general, it seems that patients should be advised that about half of all patients experience resolution of triggering with cortisone injections alone [29, 39, 44]. Open surgical release has a high success rate with few adverse events [22, 26, 42, 43]. Percutaneous release has a success rate of 94 % according to a recent systematic review of 2114 procedures [45].

Many patients with an idiopathic trigger digit prefer to avoid surgery and consider it a last resort. Others find the more immediate and near certain relief of triggering with surgery appealing, but they may be shy about appearing to rush to surgery. After describing the options and the best available evidence, we help patients determine their preferences based on their values and—if we agree—implement their treatment decision. It is possible that an earlier decision for surgery might be more satisfying, because of the more immediate and definitive relief. We therefore studied factors associated with satisfaction in the treatment of idiopathic trigger digit, including initial treatment choice.

This study tested the null hypothesis that there are no factors associated with treatment satisfaction 2 months after completion of treatment (absence of triggering at examination) or 4 months after the last visit for patients with a trigger thumb or finger. Secondary null hypothesis tested that there are no factors associated with a change in patients' preferred treatment before and after consultation. Finally, we hypothesized that initial treatment provided is not significantly different from the final received treatment.

Materials and Methods

Under a protocol approved by our institutional review board, 75 consecutive patients diagnosed with one or more new idiopathic trigger digits by one of two hand surgeons were asked to participate in this observational study. Between August 2011 and April 2014, adult, English-speaking patients with a new idiopathic trigger digit grade 2 or 3 according to the Quinnell grading system [37] were enrolled before one of two hand surgeons discussed treatment options. Study enrollment took fairly long since multiple clinical studies at our service enrolled patients with a trigger digit. Exclusion criteria were [1] patients who previously consulted a hand surgeon of our service for any trigger digit; [2] prior treatment of the same trigger digit(s) with a splint, corticosteroid injection or surgery; [3] patients with concomitant carpal tunnel syndrome who discussed treatment for this condition at enrollment; and [4] pregnant women (institutional review board mandated).

Before the surgeon discussed the treatment options and after informed consent, subjects were asked to fill out questionnaires obtaining: demographic information; treatment preference prior to consultation (multiple choice: cortisone injection, surgery or "other"); pain intensity with use of an ordinal measure from 0 (no pain) to 10 (worst possible pain) [11]; the short version of the Disabilities of the Arm, Shoulder and Hand (*Quick*DASH) [3, 17] questionnaire to evaluate upper extremity-specific disability; the 9-item Patient Health Questionnaire (PHQ-9) [20] to measure depressive symptoms; and the Pain Self-efficacy Questionnaire (PSEQ) [32] measuring pain self-efficacy. After discussion of treatment options with the surgeon, the patient's treatment choice was recorded.

The final evaluation time was either 1 to 3 months (2 months on average) after absence of triggering at examination or discharge from care, or between 3 and 5 months (4 months on average) after the last visit if there was still triggering at the last evaluation. The final evaluation was by phone with a maximum of three attempts (institutional review board mandated). At final evaluation, the following was recorded: all treatments received and the final treatment; satisfaction with overall treatment using an ordinal scale from 0 (complete dissatisfaction) to 10 (complete satisfaction); treatment helpful for relief of locking or triggering measured on an ordinal scale from 0 (no help at all) to 10 (helped completely); treatment helpful for pain relief measured on an ordinal scale from 0 (no help at all) to 10 (helped completely); pain intensity on an 11-point ordinal scale [11]; and upper extremity-specific disability with use of the *Quick*DASH [3, 17].

Treatment

Patients were offered the following treatment options: 1) cortisone injection, 2) open release, or 3) supportive ("other") treatment.

For injection a total volume of 1.0 to 1.5 mL of a 1:1 mixture of lidocaine (Hospira, Inc., Lake Forest, IL, USA) and triamcinolone (10 mg/mL, Bristol-Myers Squibb, New York, NY, USA by surgeon 1; 40 mg/mL, Bristol-Myers Squibb, New York, NY, USA by surgeon 2) was used in and around the flexor sheath at the A1-pulley with use of a 25- or 27-gauge needle as the surgeon preferred.

Patients that declined surgery or injection used either no treatment or supportive treatments (other treatments) such as acetaminophen or non-steroidal anti-inflammatory drugs (NSAIDs), ice or heat, or splints. Patients who requested a splint were advised to wear the splint at night during sleep for 6 to 8 weeks. The splint was a custom-made hand-based splint with the metacarpophalangeal (MCP) joint in neutral and the interphalangeal joints free for a trigger finger, or a custom-made thumb spica splint immobilizing the interphalangeal joint with the MCP joint in neutral.

Statistical Analysis

An a-priori power analysis indicated that 62 subjects would provide 80 % statistical power ($\beta = 0.20$) at an alpha of 0.05 to detect an R-squared of 20 % for a model with 6 predictors using linear regression analysis. To account for potential loss of 20 % of subjects we enrolled 75 patients.

Questionnaire scores were scaled based on the completed number of questions by the patient in case of missing items on a questionnaire. This method was used for the PSEQ (1

missing item in 1 patient) and PHQ-9 (1 missing item in 1 patient). We used regression prediction plus error imputation for: 1 missing pain intensity scale, duration of symptoms for 4 patients, and 2 missing relief of pain scales.

Pain intensity, upper extremity-specific disability, pain relief, relief of locking or triggering, treatment satisfaction, change in preferred treatment before and after consultation, and final treatment were all considered response variables and expected to be related. These were not used as explanatory variables.

The following variables were extremely skewed and were therefore recoded into three categories based on the scale score: treatment satisfaction (0–5, 6–9, and 10); treatment helpful for pain relief (0–5, 6–9, and 10); treatment helpful for relief of locking or triggering (0–5, 6–9, and 10); and pain intensity at follow-up (0, 1–4, 5–10).

The Pearson Chi-Square test determined the difference between two categorical variables, unless the expected cell frequency was less than five, in which case Fisher exact test was used. A Student t-test or one-way ANOVA (analysis of variance) was used to assess differences in mean indices across the levels of dichotomous and categorical variables, respectively.

We abstained from multivariable regression analysis for treatment satisfaction since this variable was extremely skewed.

A backward stepwise binary logistic regression analysis determined predictors of a change in preferred treatment before and after consultation. Variables were entered in the regression analysis if they met the criterion of $P < 0.10$ in bivariate analysis. Categorical variables with more than two categories were transformed into dummy-coded variables before being entered into the multivariable analysis.

The Bapkar test was used to determine if there was a difference in proportions of the three different treatment options (injection, surgery or supportive treatment) between enrollment and final evaluation.

Baseline characteristics are presented as frequencies and percentages for categorical variables, and as mean ± standard deviation and range for continuous variables.

Participants

We enrolled a total of 75 patients, 3 patients were excluded after initial enrollment (2 with Quinnell grade 1 and 1 with incidental carpal tunnel syndrome), 7 patients did not answer or return our calls, and 2 patients that were still planning open trigger digit release more than 1 year after initial consultation and therefore could not have a final evaluation. A cohort of 63 patients (84 %), 40 women (63 %) and 23 men (37 %) completed the study 4.8 ± 2.2 months (range, 1.6 to 13 months) on average after enrollment. These 63 patients had 79 affected digits (52 patients had 1 affected digit, 8 patients had 2 affected digits, 1 patient had 3 affected digits, and 2 patients had 4 affected digits). Twenty-five ring fingers (32 %), 23 thumbs (29 %), 15 long fingers (19 %), 10 small fingers (13 %), and 6 index fingers (7.6 %) were affected.

The 63 patients that completed the study had, on average, greater upper extremity-specific disability at enrollment than the 9 patients that did not complete the study ($P = 0.0060$) (Table 1).

Results

Predictors of Treatment Satisfaction

In bivariate analysis, initial treatment choice and the other explanatory variables were not associated with treatment satisfaction. (Table 2) Among the response variables greater relief of triggering and lower *Quick*DASH at the final evaluation were associated with greater treatment satisfaction ($P < 0.001$ and $P = 0.032$, respectively), but pain intensity and relief of pain were not.

Predictors of a Change in Preferred Treatment Before and After Consultation

Among the 63 patients that completed the study, 39 patients (63 %) chose to continue with their original preference after consulting with a hand surgeon and 23 patients (37 %) chose a different treatment than their original preference (of 29 patients who preferred an injection, 3 chose surgery, 2 a night splint and 3 decided to wait and see; of 10 patients who preferred surgery, 2 chose an injection and 1 decided to wait and see; and of 23 patients who preferred supportive treatment, 11 chose an injection and 1 surgery).

In bivariate analysis, involvement of the ring finger was less common among patients that changed their preferred treatment after consultation compared to the group that did not ($P = 0.028$). (Table 3) The multivariable logistic regression model for no change in preferred treatment before and after consultation included the affected long finger (odds ratio [OR] = 9.4, $P = 0.016$), and affected ring finger (OR = 5.4, $P = 0.0081$). (Table 4) This model explained 23 % of the probability of no change in preferred treatment before and after consultation.

Proportional Difference Between Initial and Final Treatment

There was a significant difference in proportions of the various treatments provided at enrollment and final treatment recorded at the final evaluation by phone ($P < 0.001$). After enrollment, 35 patients had a cortisone injection, 11 patients had a trigger finger or thumb release, 10 patients decided to wait and see, 6 patients received splints, and 1 patient had a

Table 1 Completers vs. non-completers

	Completers vs. Non-completers				$n = 72$
	Completers		Non-completers		
	$n = 63$		$n = 9$		
Parameter	Number	%	Number	%	*P* value
Sex					0.30
Male	23	82	5	18	
Female	40	91	4	9.1	
Race ($n = 70$)					0.90
White	58	89	7	11	
Black/African American	2	100	0	0	
Asian	2	100	0	0	
More than 1 race	1	100	0	0	
Marital status					0.87
Single	10	91	1	9.1	
Married	39	89	5	11	
Seperated/divorced	8	80	2	20	
Widowed	8	89	1	11	
Work status					0.24
Working, full-time	24	89	3	11	
Working, part-time	13	100	0	0	
Homemaker	2	67	1	33	
Retired	20	87	3	13	
Unemployed	3	60	2	40	
On worker's compensation	1	100	0	0	
Physician					0.99
Surgeon 1	46	87	7	13	
Surgeon 2	17	89	2	11	
Trigger finger					0.36
Thumb	22	92	2	8.3	
Index finger	1	50	1	50	
Long finger	7	78	2	22	
Ring finger	17	85	3	15	
Small finger	5	83	1	17	
More than 1 digit	11	100	0	0	
Affected side					0.11
Left	21	95	1	4.5	
Right	33	80	8	20	
Bilateral	9	100	0	0	
Dominant hand affected					0.99
No	19	86	3	14	
Yes	44	88	6	12	
Preferred treatment before discussion of treatment options ($n = 71$)					0.24
Injection	29	94	2	6.5	
Surgery	10	91	1	9.1	
Other	23	79	6	21	
Initial treatment					0.29
Injection	35	90	4	10	
Surgery	11	73	4	27	

Table 1 (continued)

	Completers vs. Non-completers				$n = 72$
	Completers		Non-completers		
	$n = 63$		$n = 9$		
Other	16	94	1	5.9	
More than 1 treatment	1	100	0	0	
Parameter	Mean (SD)	Range	Mean (SD)	Range	*P* value
Age (years)	63 [11]	37–90	60 [13]	39–83	0.36
Education (years)	15 (2.9)	9–22	15 (3.3)	8–19	0.82
Duration of symptoms (months) ($n = 71$)	3.7 (4.3)	0.5–20	6.7 (7.2)	1.25–24	0.091
Pain scale	4.6 (2.5)	0–10	4.0 (2.2)	1–7	0.51
*Quick*DASH score	31 [18]	0–70	19 (9.4)	4.5–41	**0.0060**
PSEQ score	49 [12]	12–60	54 (6.0)	42–60	0.064
PHQ-9 score	2.8 (4.9)	0–25	2.6 (2.8)	0–7	0.87

N = Number; SD = Standard Deviation; *Quick*DASH = Short version of Disabilities of the Arm, Shoulder and Hand questionnaire; PSEQ = Pain Self-Efficacy Questionnaire; PHQ-9 = 9-item Patient Health Questionnaire

The numbers in bold indicate significant *P* values ($P < 0.05$)

cortisone injection for one thumb and a night splint for the other thumb. Fourteen patients (22 %) had a subsequent alternative form of treatment: 3 of 10 (30 %) patients that initially chose to wait and see and 4 of 6 patients (67 %) that initially used a splint later chose an injection; 6 of 35 patients (17 %) who initially had a cortisone injection later underwent surgery an average of 6 months after injection (range, 1.5 to 11 months); and the patient that initially chose a cortisone injection for one thumb and a night splint for the other thumb eventually also had a cortisone injection for the other thumb). Two patients had a second cortisone injection (one 5 and one 6 months after the initial injection) and 8 other patients (including 1 patient who initially chose to wait and see and 2 that initially used a splint but later had their first injection as a subsequent alternative form of treatment) had a second cortisone injection after the final phone follow-up an average of 10 months after the first injection (range, 5–18 months).

Discussion

Injections work about half the time [29, 39, 44], but the majority of surgeons offer cortisone injection or splinting first, and surgery if injection is unsuccessful [1, 7, 16, 18, 21, 25, 30, 36, 41, 44]. Many patients that have gone through this process with one finger and eventually had surgery choose to go directly to surgery if another finger starts triggering. Given that little is known about treatment satisfaction for trigger digits [5, 6, 14, 40], we addressed whether initial treatment choice affects satisfaction. We thought that patients that had surgery—definitive treatment—right away, might be more satisfied.

The sample size might not detect small differences in patient satisfaction between patients choosing injection, surgery, or neither, and the study was powered on a multivariable, not bivariate, analysis of treatment satisfaction. Night splints were only offered to patients with mild triggering (Quinnell 2 in this study) according to our practice style. The relatively short evaluation time affected the study: 2 patients did not complete their follow-up because they were still planning open trigger digit release more than 1 year after their initial consultation. It is important to note that we studied symptoms of triggering and not objective examination for triggering. Some patients learn to avoid triggering and falsely believe they are cured. Lastly, treatment satisfaction, relief of triggering, relief of pain, and pain intensity at final evaluation were extremely skewed (high ceiling effect) which limited statistical power, and necessitated categorizing these measures.

The null hypothesis was confirmed: there were no explanatory variables associated with treatment satisfaction. Treatment satisfaction relates to relief of triggering and disability, but not to relief of pain. This is consistent with a retrospective questionnaire study that found most patients valued permanent relief of triggering symptoms [5]. Most patients had little to no pain and low disability scores at final evaluation. Patients that preferred to proceed directly to surgery and those that

Table 2 Bivariate analysis - treatment satisfaction

	Treatment satisfaction score						$n = 63$
	0–5		6–9		10		
	$n = 5$		$n = 19$		$n = 39$		
Parameter	Number	%	Number	%	Number	%	*P* value
At baseline							
Sex							0.19
Male	1	4.3	10	43	12	52	
Female	4	10	9	23	27	68	
Race ($n = 70$)							0.95
White	5	8.6	17	29	36	62	
Black/African American	0	0	1	50	1	50	
Asian	0	0	1	50	1	50	
More than 1 race	0	0	0	0	1	100	
Marital status							0.90
Single	0	0	4	40	6	60	
Married	4	10	11	28	24	62	
Seperated/divorced	1	13	2	25	5	63	
Widowed	0	0	2	33	4	67	
Work status							0.95
Working, full-time	3	13	7	29	14	58	
Working, part-time	1	8	4	31	8	62	
Homemaker	0	0	1	50	1	50	
Retired	1	5.0	7	35	12	60	
Unemployed	0	0	0	0	3	100	
On worker's compensation	0	0	0	0	1	100	
Physician							0.69
Surgeon 1	4	8.7	15	33	27	59	
Surgeon 2	1	5.9	4	24	12	71	
Trigger finger							0.46
Thumb	2	9.1	8	36	12	55	
Index finger	0	0	0	0	1	100	
Long finger	0	0	4	57	3	43	
Ring finger	1	5.9	2	12	14	82	
Small finger	0	0	1	20	4	80	
More than 1 digit	2	18	4	36	5	45	
Affected side							0.96
Left	1	4.8	6	29	14	67	
Right	3	9.1	10	30	20	61	
Bilateral	1	11	3	33	5	56	
Dominant hand affected							0.87
No	1	5.3	6	32	12	63	
Yes	4	9.1	13	30	27	61	
Initial treatment							0.95
Injection	2	5.7	11	31	22	63	
Surgery	1	9.1	4	36	6	55	
Other	2	13	4	25	10	63	
More than 1 treatment	0	0	0	0	1	100	

Table 2 (continued)

	Treatment satisfaction score						$n = 63$
	0–5		6–9		10		
	$n = 5$		$n = 19$		$n = 39$		
Response variables at follow-up							
Final treatment							0.13
Injection	2	5.4	8	22	27	73	
Surgery	1	5.9	8	47	8	47	
Other	2	22	3	33	4	44	
Change in preferred treatment before and after consultation ($n = 62$)							0.19
No	0	0	6	26	17	74	
Yes	4	10	13	33	22	56	
Relief of triggering score							**<0.001**
0–5	3	43	3	43	1	14	
6–9	0	0	7	58	5	42	
10	2	4.5	9	20	33	75	
Relief of pain score							0.065
0–5	2	33	2	33	2	33	
6–9	1	7.7	6	46	6	46	
10	2	4.5	11	25	31	70	
Pain score							0.056
0	1	2.3	11	26	31	72	
1–4	3	19	7	44	6	38	
5–10	1	25	1	25	2	50	
Parameter	Mean (SD)	Range	Mean (SD)	Range	Mean (SD)	Range	*P* value
At baseline							
Age (years)	62 (4.9)	55–67	61 [14]	37–90	65 (9.3)	43–86	0.45
Education (years)	16 (3.6)	12–20	15 (2.9)	12–20	15 (2.9)	9.0–22	0.70
Duration of symptoms (months)	6.0 (7.9)	1.0–20	3.2 (2.8)	0.50–12	3.7 (4.3)	0.50–20	0.43
PSEQ score	53 (6.3)	47–60	48 [11]	29–60	49 [14]	12–60	0.68
PHQ-9 score	2.2 (4.4)	0–10	1.7 (2.1)	0–7	3.5 (5.9)	0–25	0.41
At follow-up							
Follow-up time (months)	4.6 (3.3)	2.4–10	5.0 (2.2)	1.7–11	4.7 (2.0)	1.6–13	0.89
Response variables at baseline							
Pain scale	5.0 (1.6)	3–7	4.6 (1.9)	2–8	4.5 (2.8)	0–10	0.93
*Quick*DASH score	34 [24]	9.1–63	30 [14]	9.1–55	30 [19]	0–70	0.90
Response variables at follow-up							
*Quick*DASH score	30 [31]	0–70	11 [11]	0–43	11 [14]	0–66	**0.032**

N = Number; SD = Standard Deviation; *Quick*DASH = Short version of Disabilities of the Arm, Shoulder and Hand questionnaire; PSEQ = Pain Self-Efficacy Questionnaire; PHQ-9 = 9-item Patient Health Questionnaire

The numbers in bold indicate significant *P* values ($P < 0.05$)

wanted to avoid surgery or even cortisone injection had comparable satisfaction. It is worth noting that 10 of the 11 patients (91 %) that decided on surgery as their initial treatment were moderately to completely satisfied. A larger study might have demonstrated a difference in treatment satisfaction by initial treatment choice. This is consistent with the findings of Benson and Ptaszek who found that 28 of 30 (93 %) patients were satisfied with immediate surgical release compared to 34 of 44 (77 %) patients after one or a maximum of 3 corticosteroid injections [5]. In a randomized trial comparing corticosteroid injection to percutaneous release, patients were

Table 3 Bivariate analysis - change in preferred treatment before and after consultation

	Change in preferred treatment before and after consultation				$n = 62$
	No change		Change		
	$n = 23$		$n = 39$		
Parameter	Number	%	Number	%	*P* value
At baseline					
Sex					0.40
Male	7	30	16	70	
Female	16	41	23	59	
Race					0.39
White	21	37	36	63	
Black/African American	1	50	1	50	
Asian	0	0	2	100	
More than 1 race	1	100	0	0	
Marital status					0.11
Single	1	10	9	90	
Married	14	37	24	63	
Seperated/divorced	4	50	4	50	
Widowed	4	67	2	33	
Work status					0.88
Working, full-time	7	30	16	70	
Working, part-time	2	15	11	85	
Homemaker	2	100	0	0	
Retired	10	50	10	50	
Unemployed	1	33	2	67	
On worker's compensation	1	100	0	0	
Physician					0.86
Surgeon 1	17	38	28	62	
Surgeon 2	6	35	11	65	
Trigger finger*					**0.028**
Thumb	5	24	16	76	0.12
Index finger	0	0	1	100	0.99
Long finger	5	71	2	29	0.090
Ring finger	10	59	7	41	**0.041**
Small finger	0	0.0	5	100	0.15
More than 1 digit	3	27	8	73	0.52
Affected side					0.27
Left	5	25	15	75	
Right	13	39	20	61	
Bilateral	5	56	4	44	
Dominant hand affected					0.33
No	5	28	13	72	
Yes	18	41	26	59	
Response variables at follow-up					
Relief of triggering score					0.85
0–5	2	29	5	71	
6–9	5	42	7	58	
10	16	37	27	63	
Relief of pain score					0.93

Table 3 (continued)

	Change in preferred treatment before and after consultation				$n = 62$
	No change		Change		
	$n = 23$		$n = 39$		
0–5	2	33	4	67	
6–9	5	42	7	58	
10	16	36	28	64	
Pain score					0.58
0	17	40	26	60	
1–4	4	27	11	73	
5–10	2	50	2	50	
Parameter	Mean (SD)	Range	Mean (SD)	Range	*P* value
At baseline					
Age (years)	64 [11]	37–84	63 [10]	43–90	0.56
Education (years)	15 (2.9)	12–20	15 (2.9)	9–22	0.70
Duration of symptoms (months)	4.0 (4.3)	0.5–20	3.1 (3.4)	0.5–19	0.40
Pain scale	4.0 (2.9)	0–10	4.8 (2.2)	1–10	0.22
*Quick*DASH score	30 [18]	4.5–57	30 [18]	0–70	0.98
PSEQ score	49 [11]	29–60	49 [13]	12–60	0.96
PHQ-9 score	3.8 (5.0)	0–15	2.3 (4.9)	0–25	0.26
At follow-up					
Follow-up time (months)	5.1 (2.5)	1.6–13	4.6 (1.9)	1.6–11	0.39
Response variables at follow-up					
*Quick*DASH score	9.2 [10]	0–34	13 [17]	0–70	0.29

N = Number; SD = Standard Deviation; *Quick*DASH = Short version of Disabilities of the Arm, Shoulder and Hand questionnaire; PSEQ = Pain Self-Efficacy Questionnaire; PHQ-9 = 9-item Patient Health Questionnaire

*Variable entered in the multivariable analysis

The numbers in bold indicate significant *P* values ($P < 0.05$)

significantly more satisfied after percutaneous release than after 1 or 2 corticosteroid injections [6]. In another randomized trial, patients were significantly more satisfied after a corticosteroid injection than after 10 physiotherapy sessions consisting of wax therapy, ultrasound, stretching, muscle exercises and massage [40]. Another retrospective study found no difference in patient satisfaction between patients who underwent open release and percutaneous release (98 % vs. 97 %) at an average of 23 months [14]. What our study adds is that patients are equally satisfied, even if they have to change treatments along the way in order to resolve the triggering. Depression and self-efficacy did not correlate with treatment satisfaction in contrast to previous studies that found a correlation between these parameters in patients with different upper extremity conditions [2, 4, 13, 27]. It is easier to identify factors associated with greater symptoms and disability than it is to measure factors that determine patient satisfaction [15]. Patient satisfaction seems to be a more complex and elusive construct.

Table 4 Multivariable analysis - no change in preferred treatment before and after consultation

Parameter	*P* value	Odds ratio	$n = 62$ 95 % CI for odds ratio	
			Lower	Upper
Trigger finger				
Long finger	**0.016**	9.4	1.5	58
Ring finger	**0.0081**	5.4	1.5	19

N = Number; CI = Confidence Interval

The numbers in bold indicate significant *P* values ($P < 0.05$)

It seems that the encounter with the physician has an impact on patients' treatment preference in more than one-third of patients (37 %). This is in line with a recent study by Döring et al. [9] which showed that patients preferred to make treatment decisions on their own after considering a physician's advice. On average, patients placed most value on the health

provider's recommendation to arrive at one treatment option for their trigger finger; besides information on the incidence of specific benefits and risks and information on the various treatment options, personal preferences were fourth on the list of items that would help patients get to a final treatment decision [9]. Patients and surgeons rated a corticosteroid injection as the most desirable of all treatment options [9], this is comparable to 56 % of our patients' that chose a corticosteroid injection after consultation with the hand surgeon. Our finding of a digit being associated to a change in preferred treatment is likely a spurious finding.

Other studies have also shown that some trigger fingers require multiple corticosteroid injections or different kinds of treatment if the initial treatment is nonoperative [1, 5, 10, 12, 19, 33, 38, 41]. Effectiveness of different splint designs has been reported to be about 50 % when only considering complete resolution [8, 10, 34], and a single corticosteroid injection is disease modifying in over 50 % of patients [1, 5, 12, 19, 21, 28, 30, 31, 41]. Symptoms of triggering completely resolved in 3 of 7 patients (43 %) that only had observational treatment. Previous studies have also reported resolution of triggering after expectant treatment or placebo injection but too little is known about the rate at which this occurs and if there are any predicting factors [21, 23, 24, 30, 35]. Keeping in mind that splint treatment was only offered to patients that had mild triggering, while observation was offered to every patient irrespective of the severity, and most patients (60 %) were not examined for persistent triggering, these findings suggest that it would help to know more about the natural history of a trigger digit in order to better counsel patients about the value of various treatment options.

More than half of patients were completely satisfied with their treatment, unrelated to the type of treatment. Our sense is that an empathetic encounter, a dispassionate explanation of the best evidence about various treatments, and support for each patient's preferences and values creates a satisfying treatment experience. A formulaic approach (e.g., 2 injections and then surgery) may not fit each patient's preferences. In other words, it is not about offering what we think is the best treatment, but about helping patients decide what suits them. We plan to study the influence of empathy, decision-aids, and shared decision-making on satisfaction with care in future studies.

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Compliance with Ethical Standards

Conflict of Interest All named authors hereby declare that they have no conflicts of interest to disclose related to this study.

Statement of Human Rights All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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